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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,607	07/24/2002	Susan Joy Cooper	JMYT-252US	5114

7590 10/17/2006

Christopher R Lewis  
Ratner & Prestia  
One Westlakes Berwyn Suite 301  
P O Box 980  
Valley Forge, PA 19482-0980

EXAMINER
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MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/018,607

Applicant(s)

COOPER ET AL.

Examiner

Julian Mercado

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1745

## DETAILED ACTION

### *Remarks*

This Office action is responsive to applicant's amendment filed July 24, 2006.

Claims 1-13 and 15-52 are pending for consideration.

### *Claim Rejections - 35 USC § 102 and 103*

The rejection of claims 1-9 and 12 under 35 U.S.C. 102(b) based on Hausler (U.S. Pat. 3,881,957) has been withdrawn.

The rejection of claims 1-13 and 15-52 under 35 U.S.C. 103(a) based on Wilkinson et al. (EP 0 736 921 A1) and Hausler has been withdrawn.

(new rejection)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 and 15-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson et al. (EP 0 736 921 A1) in view of Petrow et al. (U.S. Pat. 3,992,512).

The teachings of Wilkinson et al. are maintained for the reasons already of record. A reiteration here follows. Wilkinson et al. teaches a gas diffusion substrate for a fuel cell

Art Unit: 1745

comprising a porous electrode having a first catalyst such as platinum. See col. 1 line 39-44, col. 5 line 61-68 and col. 6 line 43-52. The fuel cell employs a membrane electrode assembly, i.e. a polymer electrolyte fuel cell, which also incorporates a second gas diffusion substrate. A second gas phase catalyst is employed insofar as "the use of the additional gas phase catalyst gives improved performance of the electrode over the corresponding electrode without a gas phase catalyst." (specification on page 5)

Wilkinson et al. does not explicitly teach the alleged inventive feature of a gas diffusion substrate for a fuel cell comprising a porous electrode having a catalyst directly supported on an electrically non-conductive support. This feature, however, is shown by Petrow et al. in col. 5 line 54 et seq. In a similar application for fuel cell electrodes, platinum particles are directly supported onto an alumina surface structure. See also col. 4 lines 48-50. The skilled artisan would find obvious to modify Wilkinson et al.'s invention by employing a catalyst directly supported on an electrically non-conductive support. The motivation for such a modification is to greatly improve catalytic efficiency tenfold. See Petrow et al. in col. 5 line 15 and lines 35-42.

### ***Response to Arguments***

Applicant's arguments have been fully considered but are deemed moot in view of the new ground(s) of rejection. Notwithstanding, the examiner submits the following remarks: the February 9, 2006 Interview and agreement that was reached was premised on the catalytic component consisting of a *support* of an electrically non-conductive material, which is distinct from Hausler's teaching of a catalyst *supported on* a material consisting of an electrically non-conducting support. (emphasis added to distinguish the past tense verb "supported on" from the

Art Unit: 1745

noun/object “support”, refer to the prior Office action on page 3) Indeed, the extent to which Hausler is readable on the present claims is now withdrawn. The examiner emphasizes this distinction in the claim language as previously presented (“supported on..”) as compared to its currently amended form (“support of...”) as applicant’s remarks on page 8 appears to suggest that the prior Office action was made in disregard to the February 9, 2006 Interview, i.e. “With this Office action, however, the Examiner now suggests...”

As suggested in the prior Office action, the present amendment has overcome Hausler. However, the present claims are deemed obvious based on Wilkinson et al. in view of Petrow et al. for the reasons set forth above.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

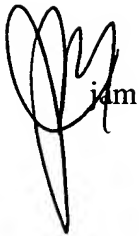
Art Unit: 1745

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to be 'jam', located at the bottom left of the page.

PATRICK JOSEPH RYAN  
SUPERVISORY PATENT EXAMINER